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Editorial: Effects and Outcomes of Informal Relations Within Organizations

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According to Carley (1995), much of the research on computational and mathematical organization theory falls into four areas: organizational design, organizational learning, organizational and information technology, and organizational evaluation and change. The area of organizational design can be seen as one of the dominant issues both theoretically and empirically. Theoretically, the work on the organizational design can be distinguished into structural—information processing—theorists and contingency theorists (see Carley 1995). Structural theorists as Mackenzie (1978), Scott (1987) and Krackhardt (1994) and information processing theorists as Galbraith (1973, 1977) argue that the design of an organization is a performance determinant. Within this perspective one of the main issues in organizational design studies is the search for a general theory to explain the underlying principle to guide the design of organization. Researches in computational and mathematical organizational theory have taken up this challenge. In the basic model of most computational and mathematical organization theories in which an information processing approach is used, the central actor is seen as an agent with bounded rationality who focuses on economic behavior, looks at a stylized form of a specific task, and examines a single organization structure.

Research demonstrates, however, that there is no one best organization design. This is consistent with the ideas of the contingency theorists. Contingency theorists (e.g., Lawrence and Lorsch 1967) argue that the relation between organizational design and performance is just the other way around: the performance is a design determinant. Furthermore, the contingency theorists argue that the right design for an organization depends on the situation. According to this argument, a general guidance and a simple theory of organizational design cannot exist.

One of the most important characteristics of the organizational design is the formal structure (Mintzberg 1983). The enormous body of research demonstrates that the individual effectiveness in terms of performance is highly dependent on the formal position within the organization, resulting in the task, the environment, and the training received. Apart from the formal structure within an organization, the organizational design can be characterized by the informal design (Krackhardt and Stern 1988; Krackhardt and Hanso 1993) which represents the informal relationships between the employees within an organization. Research on how effectiveness depends on the informal structure is far less popular than research on how effectiveness depends on the formal structure of the organization.

Related to the informal networks within an organization, and more or less contrary to their structural formal positions, individual employees make a choice about the amount, in minutes or hours a day, they invest in creating and maintaining their informal contacts with the other employees and about the amount, they invest in the performance of their own tasks. Both activities need time, and time is limited to 24 hours a day. To put it in other words: talking to other employees can be seen as a good investment for the informal position someone has within the organization, but the more time a person spends at the coffee machine, the less time he or she has to perform well. How can we explain under which conditions individuals invest more in their informal positions and under which conditions individuals make a choice to perform well within the organization? This question can be translated into 'rational choice theory'-terms and more specifically into the theory of social-production functions (Lindenberg 1984, 1991). This 'social production function (SPF)' theory provides analytical tools to systematically reconstruct instrumental goals in everyday life to universal goals, namely physical and social well-being. The assumption is made that people are rational and goal directed while striving for physical and social well-being. The way in which these so-called universal goals are realized is dependent on the fulfillment of the instrumental goals in everyday life, i.e., the instrumental goals are means of production for the higher level goals.

For the production of physical well-being, two instrumental goals have been distinguished by Wippler (1987): comfort and stimulation. Comfort means the absence of deleterious stimuli such as pain, thirst, hunger or cold. Stimulation refers to activation which produces arousal, including mental and sensory stimulation and physical effort. For explaining the behavior of individuals within an organization, the instrumental goals of social well-being are, however, more important. Lindenberg (1991) distinguished three instrumental goals for social well-being: affection, behavioral confirmation and status. Affection is what a person gets from an other person when he is loved or liked by a partner, friends and family. Behavioral confirmation is the feeling to have done 'the right thing' in the eyes of relevant others. And, status refers to social approval given on the basis of the command of scarce resources, such as money and education, relative to others.

At this point, we can translate our question, raised above, into terms of SPF-theory: under which conditions do employees make a choice to try and receive social well-being as behavioral confirmation and affection from other employees as a return to their own investment in informal relations, and under which conditions do they try and receive well-being by getting physical well-being and status on the basis of their performance. But these choices are related to each other. Since Homans (1974) we know that networks and cooperation are related: group cohesion fosters the willingness to comply with collective

obligations. So, investments in informal relationships with other employees can serve in reaching the instrumental goals affection and behavioral confirmation, but can also be seen as instrumental for the performance of employees. That is, informal networks can serve as a resource for an employee or can be restrictive for the performance of an employee. Besides this, investments in informal relationships with other employees can serve in reaching group cohesion which is important for the contribution to the collective goods.

Flache (1996; see also Flache and Macy 1996) examined the question under which conditions a dense network of informal relations helps a group to solve a social dilemma, and under which conditions a dense network fails to foster or even undermines cooperation. In simulations, he found that actors' dependence on peers' approval and the value of the collective good simultaneously increase cooperation and density of the informal network. If, however, bilateral exchanges are feasible, a dense network may arise but, at the same time, this network will undermine collective action. Because employees in different organizations have to deal with different tasks concerning their own action and the collective action, the results of Flache are extremely important for explaining the relation between informal relationships and performance, and are needed as arguments in setting up the social production function of the employees.

In SPF theory, we can go one step further by noticing that the informal networks between employees within an organizations can be distinguished in different types of informal relationships. According to Ibarra (1992, 1993) the informal networks of individuals can be divided in an advice (see also Blau 1955), an influence, and a network with intimate relations, which can be divided in a friendship and a trust network. In the different types of networks different goods are exchanged (Coleman 1990). For instance, within the advice network advice is exchanged between the sender and receiver, and in the friendship network friendship between individuals is exchanged. Relating these specific characteristics of the different types of networks, we can assume that the specific types of networks serve different instrumental goals of individuals.

In this context, the assumption can be made that the friendships serve to reach the instrumental goals affection and behavioral confirmation, where the advice and influence relationships deal with status. In this way, the trust network can be seen as a conditional network for the evolution of advice and influence relationships between the employees. So, trust between the employees can be seen as necessary for advice and influence relationships within an organization. These advice and influence networks can be seen as fostering the individual good to perform better, and can fostering the collective goods as well. Furthermore, one can expect that the different kinds of informal networks do have different effects and outcomes in terms of performances.

At this point, we can conclude that there is a reason to notice the contingency theorists. Because organizations vary in the relative importance given to producing individual and producing collective goods, the design of the organization has to be included when explaining performance.

An important reason why research on the effects of informal relations on performance of employees and organizations is scarce is that organizations were, until recently, not very open for these kinds of research: it was expensive both in time and money, and the results were generally not supposed to be very suitable for policy domains. The most important reason for examining the effect and the interest of organizations (see Carley

1995) is that organizations become more and more aware of the opportunity to alter their design and thereby to adjust or adapt to the task environment (Baligh et al. 1987, 1990; Lawrence and Lorsch 1967; Woodward 1965). And there is some evidence that by altering the organization's design we can alter its performance (Lawrence and Lorsch 1967; Burton and Obel 1984; Carley 1991, 1992).

Historically, most of the work in this area has used social network techniques for analyzing an extant situation (Carley 1995). Currently, more work is focusing on developing models of network change or models of how the agent's position in the network influences its behavior (Burt 1973, 1980, 1992; DiMaggio 1986; Krackhardt 1994; Granovetter 1973, 1974; Hummon and Fararo 1995; Doreian and Stokman 1997; Podolny and Baron 1997). Within this work, the study of Burt (1992) on structural holes can be seen as one of the most systematic explorations of informal relations and on effects of informal relation within organizations.

In November 1997, a conference was held in the Netherlands with the central question whether the effectiveness of the performance within an organization depends on the informal structure, and how these relationships can be explained. This conference was organized by the ICS, Interuniversity Center for Social Science Theory and Methodology.

A selection of the papers of this conference is published in this special issue of CMOT. The central theme of this special issue of CMOT is the effects and outcomes of the informal networks within organizations. These results can serve as starting-point or point of reference in the domain of network effects for those working in the field of computational and mathematical organizational theory.

In the first article of this special issue Henk Flap, Bert Bulder and Beate Völker, give a review of the literature since World War II on the topic of this special issue: determinants, effects, and outcomes of informal relations within organizations. An important conclusion is that along with methodological improvements the theoretical emphasis shifted from regarding-networks as a constraining force to conceiving them as providing opportunities and finally as presenting social capital. This shift requires to explain not only differences between networks but outcomes and performance as well. Furthermore, they conclude that in intra-organizational network research, problems of access to organizations and incomparability of research findings seem most serious. Besides this, an agenda for future research is given.

In the article by Karin Sanders and Sigrid Hoekstra, the relation between the informal ties of the employees within an organization and short- and long-term absentee rates is discussed. A theoretical elaboration is given of the relations between differences of individual opinions concerning illegal absenteeism with a department, the social cohesion of the department, and the absentee rates. To examine these relations, network data of 62 employees of eight comparable departments within a housing corporation were collected, and combined with internal data of the short- and long-term absentee rates of the employees.

In the article by Rene Torenvlied and Gina Velner, the informal advice and trust relations are used to explain the resistance to organizational change. The question asked is whether the informal structure within an organization is a better explanation for the amount of resistance to change than the formal structure within the organization. To answer this question (network) data in a transport company were collected.

Rafael Wittek and Rudi Wielers' article is on gossip. Gossip is defined here as a conversation about a third person who does not participate in the conversation. Three hypotheses concerning the structure of informal networks within an organization and the amount of gossip are tested. The thesis of this article is that gossip will flourish in social networks that have a relatively large number of coalition triads, i.e., where ego and alter have a good relationship amongst themselves and both having a bad relationship with tertius, the object of gossip.

This special issue is concluded with an article of Tom Snijders. In this article, he discusses a number of issues about the methodology and statistical analysis of network research in organizations. He also proposes two mathematical models, one cross-sectional and one longitudinal, for the question considered by Wittek and Wielers about gossip in organizations.

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